

REMARKS

Claims 1, 3-8, and 10-14 are pending in the application. Claims 2 and 9 were canceled previously. Favorable reconsideration of the application, as amended, is respectfully requested.

Claim Rejections Under 35 U.S.C. § 112, second paragraph

The Examiner rejects claims 1, 3-8, and 10-14 pursuant to 35 U.S.C. § 112 second paragraph as being indefinite for failing to point out particularly and distinctly claim the subject matter of the invention. Specifically, the Examiner regards the previous versions of claims 1 and 8 as indefinite in the use of the phrases "first registering a selected operation of a program" and "secondly registering another selected operation of a program." As amended, these phrases no longer appear in amended claims 1 and 8, and the amended references to a first operation and a second operation are clear.

For at least these reasons, claims 1, 3-8, and 10-14 are not indefinite pursuant to 35 U.S.C. § 112 second paragraph, and therefore this rejection of these claims should be withdrawn.

Claim Rejections Under 35 U.S.C. § 103(a)

The Examiner rejects claims 1, 3-8, and 10-14 pursuant to 35 U.S.C. § 103(a) as being obvious over Cha, U.S. Patent No. 6,212,439 B1, in view of Huang, U.S. Patent No. 5,856,789 and Wugoski, U.S. Patent No. 6,690,392 B1.

Among the amendments, independent claim 1 has been amended to recite a registration table storage device for storing a registration table. Claim 1 now also recites a "remote code determiner" and a "registration determiner." The remote code

determiner is supported in the specification at least at page 10, lines 18-26 and S3 in Fig. 2. The registration determiner is supported in the specification at least at page 10, line 27 to page 11, line 10 and S4 in Fig. 2. Comparable amendments have been made to independent claim 8.

The remote control system of the present invention includes a remote code determiner and a registration determiner. The remote code determiner determines whether or not a remote code has been registered. If a remote code has been registered, the registration determiner then affords the user the option of whether to assign multiple operations to a single remote code. When the registration determiner determines that a multiple operation is not to be registered, the remote code system does not register a multiple operation to the obtained remote code. The remote control system thus can prevent the registration of multiple operations corresponding to one remote code (see page 10, line 27 to page 11, line 11). When, however, the registration determiner determines that a multiple operation is to be registered, then remote code system registers the multiple operation corresponding to the obtained remote code. Therefore, the present invention also can register multiple operations corresponding to one remote code.

Cha, Huang, and Wugoski do not to disclose or suggest, either individually or in combination, the remote code determiner and the registration determiner as recited in the amended claims. The Examiner recognizes that Cha does not disclose registering a multiple operations to a single remote code. Similarly, the Examiner also recognizes that Huang discloses a computer system that can learn remote codes from the buttons of any brand of remote controller, but the system likewise cannot assign multiple operations to a single remote code.

The Examiner states that Wugoski discloses assigning multiple operations to a single button in the form of a macro that can execute several operations serially when a

single remote button is pressed. The Examiner concludes that it would have been obvious to first register a command and secondly register another command corresponding to the received code in view of Wugoski's disclosure of assigning a sequence of commands to a single remote control button. Independent claims 1 and 8, however, have been amended to recite additionally a remote code determiner and a registration determiner. These features are lacking in the disclosures of Cha, Huang, and Wugoski, and any combination thereof.

Specifically, the device of Huang receives a signal from a remote controller, decodes a signal to a remote code by an over-sampling scheme, and registers an operation of a program corresponding to the remote code. In contrast to the present invention, the device of Huang does not have a remote code determiner as claimed, and thus cannot determine whether or not the remote code has been registered in the computer system. The device of Huang, therefore, cannot register each operation of a program corresponding to the same remote code at different times. In addition, because, as recognized by the Examiner, the device of Huang cannot register more than one operation for a single remote button, it does not have a registration determiner, as claimed, for determining whether a second operation should be registered corresponding to the same remote code.

Wugoski may teach assigning multiple operations to a single remote button, but does so only in the form of a macro. Defining a macro is not the same as what is performed by the present invention. Below, the distinctions between the two are depicted graphically. Specifically, Fig. 5 of Wugoski, which depicts how a macro is defined, is shown side-by-side with Fig. 2 of the present application (modified with the addition of the dashed line as described below), which depicts an exemplary embodiment of the present invention. (For clarity, in Fig. 5 of Wugoski, the steps merely permitting a user to cancel the process of defining the macro are omitted.)

In Wugoski, at step 500 the user enters a mode to define a macro. At step 501, an onscreen display (OSD) informs the user that a macro is being defined. At step 502, the user selects or generates a mixed sequence of OSD functions, remote control events, mouse events, or keyboard events to define the macro. At step 505, the user ends the macro by selecting a "stop macro" command. At step 506, the OSD informs the user to select the "hard" macro key or "soft" macro key to redefine. At step 507, the user selects a macro key. At step 510, a decision is made whether to confirm the redefinition. If yes, the macro is stored at step 512 and the process exits at step 513. If no, the process exits at step 511.

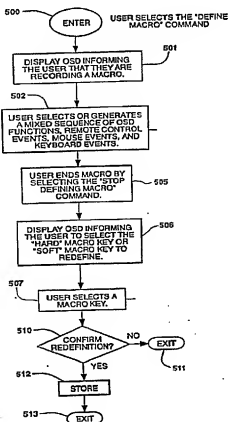


FIG - 5
WUGOSKI

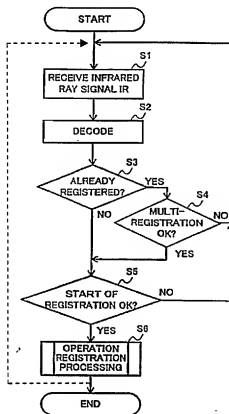


Fig. 2
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the user to select the macro key to redefine, and at step 507 the user selects a macro key. At step 510, the user is asked to confirm the redefinition, and if so, the macro is stored at step 512. (See col. 8, lines 1-50.)

The operation of the present invention differs substantially. Looking side by side at the two methods, at step S1, the system receives an infrared signal from the remote, which is decoded at step S2. The system then proceeds to step S3, which corresponds to the claimed remote code determiner. At step S3, the remote code determiner determines whether the received code is already registered. There is no component in Wugoski comparable to the remote code determiner. Indeed, as is clear above from Fig. 5 of Wugoski, the macro key is not even selected until after the steps of the macro are chosen. Although the user in Wugoski has the option to confirm the macro (presumably to give the user the option to correct any errors), there is no determination of whether the remote code is already registered.

In the system of the present application, if the remote code already is registered, the system proceeds to step S4. Step S4 represents the operation of the claimed registration determiner. The registration determiner determines whether a multiple registration for a single remote code is to be permitted. If a multiple registration is to be permitted, then the registration proceeds, resulting in multiple operations being assigned to the same remote code. As with the remote code determiner, there is nothing disclosed in Wugoski comparable to the registration determiner.

The dashed line added to Fig. 2 of the present application demonstrates how a user may return to beginning of the sequence to assign multiple operations to a single remote code. As detailed in the specification, different kinds of operations can be registered to a single remote code. (See page 15, line 31 to page 16, line 3.) Each time one desires to add another operation, the remote code is entered again at step S1. As the method repeats through steps S2-S6, the new operation is added without

altering the previous assignments. To enter another operation, a user again may return to step S1 and enter the remote code, and so on. In contrast, in the method of Wugoski, the remote code is entered only once after the user has selected all the related operations of the macro. After the macro is defined, if the user of Wugoski were to attempt to assign an operation to a remote code again, the previous macro presumably would be overwritten.

In essence, therefore, the macro of Wugoski still represents a single operation (made up of serially performed sub-operations) defined and assigned to a single remote code. In contrast, the present invention permits a single remote code, selected repeatedly, to be assigned multiple operations, which may bear no relation to one another and may be assigned at different times. Accordingly, a combination of Wugoski with Cha and Huang would not result in, disclose, or suggest the claimed invention.

For at least these reasons, claims 1, 3-8, and 10-14 are not obvious over Cha in view of Huang and Wugoski, and therefore the rejection these claims should be withdrawn.

Conclusion

Accordingly, claims 1, 3-8, and 10-14 are believed to be allowable, and the application is believed to be in condition for allowance. A prompt action to such end is respectfully requested.

Should the Examiner feel that a telephone interview would be helpful to facilitate favorable prosecution of the above-identified application, the Examiner is invited to contact the undersigned at the telephone number provided below.

Respectfully submitted,

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